

REMARKS

Responsive to the outstanding Office Action, applicant has carefully studied the Examiner's rejections. Favorable reconsideration of the application in light of the amendments and arguments is respectfully requested.

The claims pending in the application are claims 1-20 and 27 and 28. In the response, claims 1 and 16 have been amended and claim 15 has been canceled. Claim 30 is newly presented. After amendment, 23 total claims are pending and 26 claims have been previously paid for, therefore no additional claims fees are necessary. A Request for Continued Examination accompanies this response. It is respectfully submitted that no new matter has been introduced in these amendments.

REJECTIONS UNDER 35 USC §103

In the Office Action, the Examiner withdraws the previously pending rejections and now rejects claims 1-20 and 27 and 28 under 35 USC §103, as being unpatentable over US 3,892,888 to Halaby et al.

The invention as defined in claim 1 provides a method for producing an architectural glazing comprising an iron oxide coating on a glass article by atmospheric pressure chemical vapor deposition in an on-line float glass process. The method comprises providing a heated glass substrate having a surface on which the coating is to be deposited and directing ferrocene and an oxidant toward and along the surface to be coated to form a gaseous precursor mixture. The gaseous precursor mixture is reacted at or near the surface of the glass substrate to form an iron oxide coating. The iron oxide is primarily in the form of Fe_2O_3 .

Claim 1 has been amended herein to define the process as occurring in an on-line float glass process. Additionally, the claim has been amended to indicate that an additional coating is deposited between iron oxide coating and the substrate. As noted above, support for the process being in an on-line float process is provided in the application as filed.

The Halaby reference cited by the Examiner is addressed to a method of producing a magnetic recording or storage device. Halaby teaches the deposition of an iron coating, or an α -ferric oxide film on a substrate, which may be glass, and converting the film to a magnetite film or a γ -ferric oxide film through extended exposure to a reducing atmosphere at high temperature. The film is produced through a chemical vapor deposition process which does not need to be sealed off from the outside atmosphere (thus can apparently be at atmospheric pressure). The Examiner acknowledges that the reference fails to disclose that the mixture is formed prior to reacting but states that one skilled in the art would know that forming a mixture prior to reacting ensures saturation amongst the desired materials. The Examiner states that it would have been obvious to utilize a mixture of ferrocene and an oxidant to deposit an iron oxide film with the expectation of obtaining similar results.

It is respectfully submitted that the teaching of Halaby would not lead one skilled in the art to the present invention. The Examiner states that it would have been obvious to one skilled in the art to utilize a mixture of ferrocene and an oxidant to deposit an iron oxide film with the expectation of obtaining similar results (saturation amongst the desired materials). Applicants disagree with this conclusion of the Examiner. Applicants are not aware of any prior art teaching that "forming a mixture prior to reacting ensures saturation amongst the desired materials." Should the Examiner have any information that premixing ferrocene and an oxidant has been shown, applicants hereby request that the Examiner provide such information position in an affidavit, as required by 37 CFR §1.104(d)(2).

In addition, it is respectfully pointed out that claim 1 has been amended to indicate that the process occurs in an on-line process, which was previously pending in claim 15. While the Examiner rejected claim 15, indicating that the rejections therein had been addressed above, it is respectfully submitted that applicants do not see the subject matter of an on-line float glass process addressed. Halaby nowhere shows the use of an on-line float glass process and in fact, would seem to be incompatible with such a process.

To the contrary, applicants submit that the teachings of Halaby are not at all consistent with an on-line float glass process. An on-line float glass process is beneficial in that it proceeds as a continuous process (as opposed to a batch process) at a considerable rate of speed. One of the limiting factors in depositions done in an on-line float glass process is the deposition rate of the reaction. While low deposition rates are acceptable in batch process, they are totally unsuitable for the on-line float glass process. Halaby suggests that the process for producing its desired final products can occur in a period of from 15 minutes to 10 hours (column 3, lines 26-29.) This number is quite reasonable for a batch process, but would be completely incompatible with an on-line process. Thus, the teachings of Halaby are compatible with batch processes, but are incompatible with the on-line float glass process as defined and claimed in claim 1. Therefore, it is submitted that claim 1 further defines over the applied art of record.

As before, claim 28 further defines over this reference. Halaby teaches a method of making a magnetic recording media. Claim 28 further defines over the method of Halaby in that it is addressed to the production of an architectural glazing, which is a totally different field of art than magnetic recording media. One skilled in the art of architectural glazings would not look to the field of magnetic recording media to define a method of production. Therefore, it is believed that claim 28 further defines over the applied art of record.

Newly presented claim 29 also further distinguishes over the applied art. Claim 29 defines an additional layer deposited between the iron oxide layer and the substrate.

Support for this additional layer is found in the specification as filed, at least in paragraph [0018]. Nothing in the Halaby reference teaches or suggests any utility in adding a layer between the iron oxide layer and the substrate. Instead, Halaby addresses a magnetic recording medium which comprises a magnetic layer deposited over a substrate. There is absolutely nothing in the Halaby reference to suggest in any way the formation of an additional layer beneath the iron oxide layer. Therefore, claim 29 is believed to further distinguish over the applied reference.

Claim 16 is similar to claim 1, in that it defines a method of utilizing ferrocene in an atmospheric pressure chemical vapor deposition process which occurs in an on-line float glass process to form an iron oxide layer on a substrate. The ferrocene and an oxidant are mixed and delivered to the substrate for use in the chemical vapor deposition process, and the iron oxide layer formed is primarily Fe_2O_3 . An additional coating is applied between the iron oxide coating and the substrate.

Claim 16 distinguishes over the applied art of record for the reasons stated above with regard to claims 1 and 29. As with claim 1, the Examiner is requested that should he have any information that premixing ferrocene and an oxidant has been shown, applicants hereby request that the Examiner provide such information position in an affidavit, as required by 37 CFR §1.104(d)(2).

Further, as with claim 1, claim 61 has been amended to indicate that the process occurs in an on-line process. Halaby nowhere shows the use of an on-line float glass process and in fact, would seem to be incompatible with such a process.

Also, as with claim 29, claim 16 defines an additional layer between the iron oxide layer and the substrate. Nothing in Halaby teaches or suggests such a layer, and thus claim 16 further defines over the applied art of record.

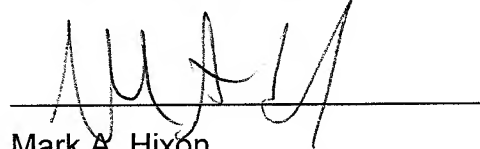
On the basis of the above, it is respectfully submitted that claims 1 and 16 are fully distinguishable over the art of record.

Summary

Claims 2-15, 17-20 and 27-29, which depend, directly or indirectly from independent claims 1 or 16, are believed to be allowable based, at least, upon this dependence from what are believed to be allowable base claims. Therefore, all of the claims are believed to be allowable over the applied art of record.

In view of the above, it is submitted that all of the claims are in condition for allowance, and action towards that end is respectfully requested. Should the Examiner wish to modify the application in any way, applicant's attorney suggests a telephone interview in order to expedite the prosecution of the application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Mark A. Hixon', is written over a horizontal line.

Mark A. Hixon

Registration No. 44,766

ATTORNEYS

Marshall & Melhorn, LLC
Four SeaGate - 8th Floor
Toledo, Ohio 43604
(419) 249-7114
(419) 249-7151 (Facsimile)
hixon@marshall-melhorn.com